

May 18, 2012

Duke Energy Miami Fort Generating Station 11021 Brower Road North Bend, OH 45052

Attention: Ms. Tara Thomas

Environmental Coordinator

Re: Results – **May 2012**

Low-Level Mercury Sampling Miami Fort Generating Station

North Bend, Ohio

In accordance with your request, URS prepared the following letter report transmitting low-level mercury test results for samples collected at the Miami Fort Generating Station located in North Bend, Ohio.

The scope of work involved the sampling of intake and discharge waters from the following sources and analysis of those samples for low-level mercury.

- 1. River Intake
- 2. Station 601 (WWT Influent)
 [Samples were collected at this station one detention time (approximately 14 hours as specified by Duke Energy) before samples collected at Outfall 608]
- 3. Outfall 608 (WWT Effluent)
 [Samples were collected at this outfall one detention time (approximately 14 hours as specified by Duke Energy) after samples collected at station 601]
- 4. Outfall 002 (Pond B Discharge)

Each sample was collected following the required Method 1669: Sampling Ambient Water for Determination of Trace Metals at EPA Water Quality Criteria Levels (Sampling Method) and analyzed by Method 1631. At the request of Duke Energy, a dissolved low-level mercury sample was collected by Method 1669 from Outfall 608 and analyzed by Method 1631. The collected dissolved sample was filtered at the laboratory utilizing 0.45 micron filtration. Also at the request of Duke Energy, total metal mercury sample aliquots (preserved) from Station 601 (Unit 7, Unit 8 was offline during this sampling event) were used to have the laboratory pipet off and prepare the supernatant layer of the samples (leaving behind as much of the settled solids as possible) for analysis by Method 7470A.

Field staff from URS' Cincinnati office conducted the sampling and TestAmerica Laboratories Inc. located in North Canton, Ohio performed the analytical procedures. The analytical procedures included the analyses of a collected sample and duplicate sample



Duke Energy May 18, 2012 Page 2

(duplicates collected at Outfall 608 and Outfall 002), field blank (field blanks collected at the River Intake, Outfall 608, and Outfall 002), and trip blank.

The results from the May 1 and 2, 2012 sampling event are presented in the attached Table 1. A copy of the laboratory report is enclosed with this letter.

--ooOoo--

URS is pleased to provide continued assistance to Duke Energy in the execution of their environmental monitoring requirements. If there are any questions regarding the content of this report, please do not hesitate to contact the undersigned.

Sincerely,

URS Corporation

Michael A. Wagner Project-Manager

Dennis P. Connair, C.P.G.

Principal

MAW/DPC/Duke Energy-MFS LL Hg 2012 Job No. 14950516

TABLE 1

ANALYTICAL RESULTS
LOW-LEVEL MERCURY
RIVER INTAKE, STATION 601, OUTFALL 608, AND OUTFALL 002 (POND B)

DUKE ENERGY - MIAMI FORT STATION NORTH BEND, OHIO

		Date Sa	impled / Results	ts (ng/L, parts per trillion)							
ample ID	1/3-4/2012	2/2-3/2012	3/1-2/2012	4/2-3/2012	5/1-2/2012	6/x/2012					
River Intake	7.9	6.1	3.9	4.0	3.9						
Station 601 (7)	360,000	100,000	1,300,000	85,000	590,000						
Station 601 (7)*	570	6,000	54,000	68,000	110,000						
Station 601 (7)* [duplicate]	200	Not Collected	55,000	66,000	110,000						
Station 601 (8)	210,000	68,000	830,000	310,000	Off Line						
Station 601 (8)*	420	5,300	110,000	75,000	Off Line						
Station 601 (8)*[duplicate]	Not Collected	3,500	Not Collected	Not Collected	Off Line						
Outfall 608	60	89	48	120	170						
Outfall 608 [duplicate]	65	85	49	120	200						
Outfall 608 [dissolved, 0.45 micron]	2.9	26	1.6 H	0.53 B	61						
APB-002	3.2	3.7	2.9	4.8	4.2						
APB-002 [duplicate]	3.3	3.5	3.6	4.6	4.0						
Field Blank (RI-FB)	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50						
Field Blank (WWT-FB)	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50						
Field Blank (AP-FB)	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50						
Trip Blank	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50						

Samples collected by URS. Samples analyzed by TestAmerica of North Canton, Ohio.

Sampling times are noted within the associated laboratory report for each collected sample

B = Compound was found in blank and sample

^{* =} Total mercury analysis utilizing Method 7470A [results converted from ug/L (parts per billion) to ng/L]. The aqueous layer of the sample was pipetted off and prepared, with care to leave behind as much of the settled solids as possible.

H = Sample was prepped or analyzed beyond the specified holding time



THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

TestAmerica Job ID: 240-10910-1

Client Project/Site: MF LL Hg 2012 - J12050255

For:

Duke Energy Corporation 139 East Fourth Street Cincinnati, Ohio 45202

Attn: Ms. Sue Wallace

Denise Poll

Authorized for release by: 5/15/2012 1:38:40 PM

Denise Pohl

Project Manager II

denise.pohl@testamericainc.com

.....LINKS

Review your project results through

Total Access

Have a Question?



Visit us at: www.testamericainc.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Client: Duke Energy Corporation Project/Site: MF LL Hg 2012 - J12050255 TestAmerica Job ID: 240-10910-1

Table of Contents

Cover Page	1
Table of Contents	2
Definitions/Glossary	3
Case Narrative	4
Method Summary	6
Sample Summary	7
Detection Summary	8
Client Sample Results	10
QC Sample Results	23
QC Association Summary	24
Lab Chronicle	26
Certification Summary	29
Chain of Custody	30
Receipt Chacklists	35

3

4

£

0

9

10

12

13

Definitions/Glossary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
<u></u>	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RL	Reporting Limit
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

_

8

9

IU

12

13

Case Narrative

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Job ID: 240-10910-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: Duke Energy Corporation

Project: MF LL Hg 2012 - J12050255

Report Number: 240-10910-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 05/03/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 20.7 C.

DISSOLVED LOW LEVEL MERCURY

Sample 608 WWT DISS (240-10910-9) was analyzed for dissolved low level mercury in accordance with EPA Method 1631E. The samples were prepared on 05/03/2012 and analyzed on 05/04/2012.

Sample 608 WWT DISS (240-10910-9)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Low Level Mercury analysis.

All quality control parameters were within the acceptance limits.

TOTAL MERCURY

Samples 601 WWT(7) TOT (240-10910-4) and 601 WWT(7) TOT DUP (240-10910-5) were analyzed for total mercury in accordance with EPA SW-846 Methods 7470A. The samples were prepared on 05/07/2012 and analyzed on 05/09/2012.

Samples 601 WWT(7) TOT (240-10910-4)[50X] and 601 WWT(7) TOT DUP (240-10910-5)[50X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

3

4

O

7

8

10

12

13

Case Narrative

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Job ID: 240-10910-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Per client instructions, the aqueous layer of the sample was pipetted off and prepared for samples 601 WWT(7) TOT, 601 WWT(7) TOT DUP with care to leave behind as much of the settled solids as possible.

No other analytical or quality issues were noted.

No difficulties were encountered during the mercury analyses.

All quality control parameters were within the acceptance limits.

LOW LEVEL MERCURY

Samples RI FB (240-10910-1), RI (240-10910-2), 601 WWT(7) (240-10910-3), 608 WWT FB (240-10910-6), 608 WWT (240-10910-7), 608 WWT DUP (240-10910-8), OUTFALL 002 FB (240-10910-10), OUTFALL 002 (240-10910-11), OUTFALL 002 DUP (240-10910-12) and TRIP BLANK (240-10910-13) were analyzed for Low Level Mercury in accordance with EPA Method 1631E. The samples were prepared on 05/04/2012 and analyzed on 05/08/2012.

Samples 601 WWT(7) (240-10910-3)[200000X], 608 WWT (240-10910-7)[100X] and 608 WWT DUP (240-10910-8)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

No difficulties were encountered during the Low Level Mercury analyses.

All quality control parameters were within the acceptance limits.

4

5

7

8

1 0

12

13

11)

Method Summary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Method	Method Description	Protocol	Laboratory
1631E	Mercury, Low Level (CVAFS)	EPA	TAL NC
7470A	Mercury (CVAA)	SW846	TAL NC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL NC = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

4

5

_

7

Ö

11

12

13

Sample Summary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-10910-1	RI FB	Water	05/01/12 17:50	05/03/12 09:45
240-10910-2	RI	Water	05/01/12 17:55	05/03/12 09:45
240-10910-3	601 WWT(7)	Water	05/01/12 18:25	05/03/12 09:45
240-10910-4	601 WWT(7) TOT	Water	05/01/12 18:30	05/03/12 09:45
240-10910-5	601 WWT(7) TOT DUP	Water	05/01/12 18:35	05/03/12 09:45
240-10910-6	608 WWT FB	Water	05/02/12 08:45	05/03/12 09:45
240-10910-7	608 WWT	Water	05/02/12 08:50	05/03/12 09:45
240-10910-8	608 WWT DUP	Water	05/02/12 08:55	05/03/12 09:45
240-10910-9	608 WWT DISS	Water	05/02/12 09:00	05/03/12 09:45
240-10910-10	OUTFALL 002 FB	Water	05/02/12 09:25	05/03/12 09:45
240-10910-11	OUTFALL 002	Water	05/02/12 09:25	05/03/12 09:45
240-10910-12	OUTFALL 002 DUP	Water	05/02/12 09:30	05/03/12 09:45
240-10910-13	TRIP BLANK	Water	05/02/12 00:00	05/03/12 09:45

-

4

5

7

8

9

10

13

7470A

Lab Sample ID: 240-10910-7

Total/NA

50

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: RI FB Lab Sample ID: 240-10910-1 No Detections Client Sample ID: RI Lab Sample ID: 240-10910-2 Analyte Result Qualifier RL Unit Dil Fac D Method **Prep Type** Mercury 3.9 0.50 ng/L 1631E Total/NA Client Sample ID: 601 WWT(7) Lab Sample ID: 240-10910-3 Analyte Result Qualifier Unit Method Prep Type Mercury 590000 100000 ng/L 200000 1631E Total/NA Client Sample ID: 601 WWT(7) TOT Lab Sample ID: 240-10910-4 Analyte Result Qualifier RL Unit Dil Fac D Method Prep Type Mercury 110 10 ug/L 50 7470A Total/NA

Client Sample ID: 601 WWT(7) TOT DUP

Lab Sample ID: 240-10910-5

Analyte Result Qualifier RL Unit Dil Fac D Method Prep Type

10

ug/L

110

Client Sample ID: 608 WWT FB Lab Sample ID: 240-10910-6

No Detections

Client Sample ID: 608 WWT

Mercury

 Analyte
 Result Mercury
 Qualifier
 RL No.
 Unit ng/L
 Dil Fac Dil Fac

Client Sample ID: 608 WWT DUP

Analyte Result Qualifier RL Unit Dil Fac D Method Prep Type

Mercury 200 50 ng/L 100 1631E Total/NA

Client Sample ID: 608 WWT DISS

Lab Sample ID: 240-10910-9

AnalyteResult
MercuryQualifierRL
10Unit
ng/LDil Fac
20D
Method
1631EPrep Type
Dissolved

Client Sample ID: OUTFALL 002 FB Lab Sample ID: 240-10910-10

No Detections

Client Sample ID: OUTFALL 002 Lab Sample ID: 240-10910-11

Client Sample ID: OUTFALL 002 DUP

Lab Sample ID: 240-10910-12

Detection Summary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: TRIP BLANK

TestAmerica Job ID: 240-10910-1

Lab Sample ID: 240-10910-13

No Detections

5

4

7

8

10

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: RI FB Lab Sample ID: 240-10910-1

Date Collected: 05/01/12 17:50 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Mercury	0.50	U	0.50	ng/L		05/04/12 08:00	05/08/12 13:25	1

2

4

5

6

8

9

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: RI Lab Sample ID: 240-10910-2 Date Collected: 05/01/12 17:55

Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS) Analyte Result Qualifier RLUnit D Prepared Analyzed Dil Fac Mercury 0.50 3.9 ng/L 05/04/12 08:00 05/08/12 13:02

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 601 WWT(7)

Lab Sample ID: 240-10910-3

Date Collected: 05/01/12 18:25 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)								
	Analyte	Result Qualif	fier RL	Unit	D	Prepared	Analyzed	Dil Fac
	Mercury	590000	100000	ng/L		05/04/12 08:00	05/08/12 13:05	200000

4

5

6

8

9

11

12

16

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 601 WWT(7) TOT

Lab Sample ID: 240-10910-4

Date Collected: 05/01/12 18:30 Matrix: Water

Date Received: 05/03/12 09:45

Method: 7470A - Mercury (CVAA)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	110		10	ug/L		05/07/12 11:30	05/09/12 13:56	50

_

O —

8

10

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 601 WWT(7) TOT DUP

Lab Sample ID: 240-10910-5

Date Collected: 05/01/12 18:35 Matrix: Water

Date Received: 05/03/12 09:45

Method: 7470A - Mercury (CVAA)								
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	110		10	ug/L		05/07/12 11:30	05/09/12 13:59	50

0

10

46

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 608 WWT FB Lab Sample ID: 240-10910-6

Date Collected: 05/02/12 08:45 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Mercury	0.50	U	0.50	ng/L		05/04/12 08:00	05/08/12 13:28	1

5

0

8

10

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 608 WWT Lab Sample ID: 240-10910-7

Date Collected: 05/02/12 08:50 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Lev	rel (CVAFS)							
Analyte	Result C	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	170		50	ng/L		05/04/12 08:00	05/08/12 13:08	100

5

7

8

10

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 608 WWT DUP

Lab Sample ID: 240-10910-8

Date Collected: 05/02/12 08:55 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)										
Analyte	Result Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac			
Mercury	200	50	ng/L		05/04/12 08:00	05/08/12 13:12	100			

3

4

0

9

11

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: 608 WWT DISS

Lab Sample ID: 240-10910-9

Date Collected: 05/02/12 09:00 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS) - Dissolved									
Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	61		10	ng/L		05/03/12 15:31	05/04/12 12:20	20	

2

4

5

6

8

10

11

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: OUTFALL 002 FB Lab Sample ID: 240-10910-10

Date Collected: 05/02/12 09:25 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)										
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac	
	Mercury	0.50	U	0.50	ng/L		05/04/12 08:00	05/08/12 13:31	1	

6

8

4.0

11

13

1/

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Client Sample ID: OUTFALL 002 Lab Sample ID: 240-10910-11

Date Collected: 05/02/12 09:25 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Mercury	4 2		0.50	na/L		05/04/12 08:00	05/08/12 13:15	1

4

5

7

0

10

12

13

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: OUTFALL 002 DUP

TestAmerica Job ID: 240-10910-1

Lab Sample ID: 240-10910-12

Date Collected: 05/02/12 09:30 Matrix: Water

Date Received: 05/03/12 09:45

Method: 1631E - Mercury, Low Level (CVAFS)									
	Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Mercury	4.0		0.50	ng/L		05/04/12 08:00	05/08/12 13:18	1

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: TRIP BLANK

TestAmerica Job ID: 240-10910-1

Lab Sample ID: 240-10910-13

Matrix: Water

Date Collected: 05/02/12 00:00 Date Received: 05/03/12 09:45

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.50	П	0.50	ng/l	_	05/04/12 08:00	05/08/12 13:21	1

3

4

5

0

10

12

13

Client Sample ID: Method Blank

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Method: 1631E - Mercury, Low Level (CVAFS)

Lab Sample ID: MB 240-42640/1-A **Matrix: Water**

Analysis Batch: 42850

мв мв

мв мв

0.50 U

PR PR Result Qualifier

0.50 U

мв мв Result Qualifier

0.20 U

Result Qualifier

Result Qualifier RL Unit Analyte D Prepared Analyzed Dil Fac 0.50 ng/L 05/03/12 08:00 05/04/12 10:12 Mercury 0.50 U

RL

0.50

RL

RL

0.20

0.50

Spike Added

5.00

Spike

Added

5.00

LCS LCS

LCS LCS

4.96

Result Qualifier

4.79

Result Qualifier

Unit

ng/L

Unit

ng/L

D

D

D

Unit

ng/L

Unit

ng/L

Unit

ug/L

Lab Sample ID: LCS 240-42640/2-A

Matrix: Water

Analysis Batch: 42850

Analyte

Mercury

Lab Sample ID: MB 240-42784/1-A

Matrix: Water

Analysis Batch: 43233

Analyte

Mercury

Lab Sample ID: LCS 240-42784/2-A

Matrix: Water

Analysis Batch: 43233

Analyte

Lab Sample ID: PB 240-42697/1-B PB

Matrix: Water

Mercury

Analyte

Mercury

Analysis Batch: 42850

Mercury Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-43082/1-A

Matrix: Water

Analysis Batch: 43595

Analyte

Lab Sample ID: LCS 240-43082/2-A

Matrix: Water

Analysis Batch: 43595

Analyte

Spike Added Mercury

Result Qualifier 5.00 4.56

LCS LCS

Unit ug/L

D %Rec

Limits 91

81 - 123

Client Sample ID: Lab Control Sample

Limits

%Rec

Prepared

Prepared

05/03/12 15:31

Prepared

05/07/12 11:30

Prep Type: Total/NA Prep Batch: 42640

Prep Type: Total/NA

Prep Batch: 42640

96 77 - 123

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 42784

Analyzed Dil Fac 05/04/12 08:00 05/08/12 12:48

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 42784

%Rec.

%Rec Limits 99 77 123

Client Sample ID: Method Blank

Prep Type: Dissolved

Prep Batch: 42640

Dil Fac Analyzed

05/04/12 12:23

Client Sample ID: Method Blank

Prep Type: Total/NA Prep Batch: 43082

Analyzed Dil Fac

05/09/12 13:46 Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 43082 %Rec.

> TestAmerica Canton 5/15/2012

TestAmerica Job ID: 240-10910-1

Client: Duke Energy Corporation Project/Site: MF LL Hg 2012 - J12050255

Metals

Prep Batch: 42640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-10910-9	608 WWT DISS	Dissolved	Water	1631E	
LCS 240-42640/2-A	Lab Control Sample	Total/NA	Water	1631E	
MB 240-42640/1-A	Method Blank	Total/NA	Water	1631E	
PB 240-42697/1-B PB	Method Blank	Dissolved	Water	1631E	

Prep Batch: 42784

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
240-10910-1	RIFB	Total/NA	Water	1631E	
240-10910-2	RI	Total/NA	Water	1631E	
240-10910-3	601 WWT(7)	Total/NA	Water	1631E	
240-10910-6	608 WWT FB	Total/NA	Water	1631E	
240-10910-7	608 WWT	Total/NA	Water	1631E	
240-10910-8	608 WWT DUP	Total/NA	Water	1631E	
240-10910-10	OUTFALL 002 FB	Total/NA	Water	1631E	
240-10910-11	OUTFALL 002	Total/NA	Water	1631E	
240-10910-12	OUTFALL 002 DUP	Total/NA	Water	1631E	
240-10910-13	TRIP BLANK	Total/NA	Water	1631E	
LCS 240-42784/2-A	Lab Control Sample	Total/NA	Water	1631E	
MB 240-42784/1-A	Method Blank	Total/NA	Water	1631E	

Analysis Batch: 42850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-10910-9	608 WWT DISS	Dissolved	Water	1631E	42640
LCS 240-42640/2-A	Lab Control Sample	Total/NA	Water	1631E	42640
MB 240-42640/1-A	Method Blank	Total/NA	Water	1631E	42640
PB 240-42697/1-B PB	Method Blank	Dissolved	Water	1631E	42640

Prep Batch: 43082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
240-10910-4	601 WWT(7) TOT	Total/NA	Water	7470A
240-10910-5	601 WWT(7) TOT DUP	Total/NA	Water	7470A
LCS 240-43082/2-A	Lab Control Sample	Total/NA	Water	7470A
MB 240-43082/1-A	Method Blank	Total/NA	Water	7470A

Analysis Batch: 43233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-10910-1	RI FB	Total/NA	Water	1631E	42784
240-10910-2	RI	Total/NA	Water	1631E	42784
240-10910-3	601 WWT(7)	Total/NA	Water	1631E	42784
240-10910-6	608 WWT FB	Total/NA	Water	1631E	42784
240-10910-7	608 WWT	Total/NA	Water	1631E	42784
240-10910-8	608 WWT DUP	Total/NA	Water	1631E	42784
240-10910-10	OUTFALL 002 FB	Total/NA	Water	1631E	42784
240-10910-11	OUTFALL 002	Total/NA	Water	1631E	42784
240-10910-12	OUTFALL 002 DUP	Total/NA	Water	1631E	42784
240-10910-13	TRIP BLANK	Total/NA	Water	1631E	42784
LCS 240-42784/2-A	Lab Control Sample	Total/NA	Water	1631E	42784
MB 240-42784/1-A	Method Blank	Total/NA	Water	1631E	42784

Analysis Batch: 43595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-10910-4	601 WWT(7) TOT	Total/NA	Water	7470A	43082

TestAmerica Canton 5/15/2012

QC Association Summary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Metals (Continued)

Analysis Batch: 43595 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-10910-5	601 WWT(7) TOT DUP	Total/NA	Water	7470A	43082
LCS 240-43082/2-A	Lab Control Sample	Total/NA	Water	7470A	43082
MB 240-43082/1-A	Method Blank	Total/NA	Water	7470A	43082

2

g

10

11

14

Lab Sample ID: 240-10910-4

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: RI FB

Lab Sample ID: 240-10910-1 Date Collected: 05/01/12 17:50

Matrix: Water

Date Received: 05/03/12 09:45

		Batch	Batch		Dilution	Batch	Prepared		
	Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
	Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
İ	Total/NA	Analysis	1631E		1	43233	05/08/12 13:25	CJ	TAL NC

Client Sample ID: RI Lab Sample ID: 240-10910-2

Date Collected: 05/01/12 17:55 Matrix: Water

Date Received: 05/03/12 09:45

Batch Batch Dilution Batch Prepared **Prep Type** Туре Method Run Factor Number or Analyzed Analyst Lab Total/NA Prep 1631E 42784 05/04/12 08:00 LM TAL NC Total/NA 43233 05/08/12 13:02 CJ Analysis 1631E 1 TAL NC

Client Sample ID: 601 WWT(7) Lab Sample ID: 240-10910-3

Date Collected: 05/01/12 18:25 Matrix: Water

Date Received: 05/03/12 09:45

Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab Prep Total/NA 1631E 42784 05/04/12 08:00 LM TAL NC Total/NA 1631E 200000 43233 05/08/12 13:05 CJ TAL NC Analysis

Client Sample ID: 601 WWT(7) TOT

Date Collected: 05/01/12 18:30 **Matrix: Water**

Date Received: 05/03/12 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			43082	05/07/12 11:30	AS	TAL NC
Total/NA	Analysis	7470A		50	43595	05/09/12 13:56	AS	TAL NC

Client Sample ID: 601 WWT(7) TOT DUP Lab Sample ID: 240-10910-5

Date Collected: 05/01/12 18:35 Matrix: Water

Date Received: 05/03/12 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	7470A			43082	05/07/12 11:30	AS	TAL NC
Total/NA	Analysis	7470A		50	43595	05/09/12 13:59	AS	TAL NC

Client Sample ID: 608 WWT FB Lab Sample ID: 240-10910-6

Date Collected: 05/02/12 08:45

Date Received: 05/03/12 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		1	43233	05/08/12 13:28	CJ	TAL NC

Matrix: Water

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: 608 WWT

Date Collected: 05/02/12 08:50 Date Received: 05/03/12 09:45

Lab Sample ID: 240-1091	0.7

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		100	43233	05/08/12 13:08	CJ	TAL NC

Client Sample ID: 608 WWT DUP

Date Collected: 05/02/12 08:55

Date Received: 05/03/12 09:45

-	rinaryot		
:00	LM	TAL NC	_
:08	CJ	TAL NC	

Lab Sample ID: 240-10910-8 Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		100	43233	05/08/12 13:12	CJ	TAL NC

Client Sample ID: 608 WWT DISS

Date Collected: 05/02/12 09:00

Date Received: 05/03/12 09:45

Lab Sample	ID:	24	0-	10	91	0-9	

Matrix: Water

Matrix: Water

Matrix: Water

Matrix: Water

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Dissolved	Prep	1631E			42640	05/03/12 15:31	CJ	TAL NC
Dissolved	Analysis	1631E		20	42850	05/04/12 12:20	CJ	TAL NC

Client Sample ID: OUTFALL 002 FB

Date Collected: 05/02/12 09:25

Date Received: 05/03/12 09:45

Lab Sample ID: 240-10	910-10

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		1	43233	05/08/12 13:31	CJ	TAL NC

Client Sample ID: OUTFALL 002

Date Collected: 05/02/12 09:25

Date Received: 05/03/12 09:45

Lab Sample ID: 240-10	910-11

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		1	43233	05/08/12 13:15	CJ	TAL NC

Client Sample ID: OUTFALL 002 DUP

Date Collected: 05/02/12 09:30

Date Received: 05/03/12 09:45

Client Sample ID: OUTFALL 002 DUP					Lab	Sample	ID: 240-10910-12
Total/NA	Analysis	1631E	1	43233	05/08/12 13:15	CJ	TAL NC
Total/NA	Prep	1631E		42784	05/04/12 08:00	LM	TAL NC

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		1	43233	05/08/12 13:18	CJ	TAL NC

Lab Chronicle

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

Client Sample ID: TRIP BLANK

TestAmerica Job ID: 240-10910-1

Lab Sample ID: 240-10910-13

Motrice Motor

Matrix: Water

Date Collected: 05/02/12 00:00 Date Received: 05/03/12 09:45

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	1631E			42784	05/04/12 08:00	LM	TAL NC
Total/NA	Analysis	1631E		1	43233	05/08/12 13:21	CJ	TAL NC

Laboratory References:

TAL NC = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Ę

7

8

11

12

13

Certification Summary

Client: Duke Energy Corporation

Project/Site: MF LL Hg 2012 - J12050255

TestAmerica Job ID: 240-10910-1

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Canton	California	NELAC	9	01144CA
TestAmerica Canton	Connecticut	State Program	1	PH-0590
TestAmerica Canton	Florida	NELAC	4	E87225
TestAmerica Canton	Georgia	State Program	4	N/A
TestAmerica Canton	Illinois	NELAC	5	200004
TestAmerica Canton	Kansas	NELAC	7	E-10336
TestAmerica Canton	Kentucky	State Program	4	58
TestAmerica Canton	L-A-B	DoD ELAP		L2315
TestAmerica Canton	Minnesota	NELAC	5	039-999-348
TestAmerica Canton	Nevada	State Program	9	OH-000482008A
TestAmerica Canton	New Jersey	NELAC	2	OH001
TestAmerica Canton	New York	NELAC	2	10975
TestAmerica Canton	Ohio VAP	State Program	5	CL0024
TestAmerica Canton	Pennsylvania	NELAC	3	68-00340
TestAmerica Canton	USDA	Federal		P330-11-00328
TestAmerica Canton	Virginia	NELAC	3	460175
TestAmerica Canton	Washington	State Program	10	C971
TestAmerica Canton	West Virginia DEP	State Program	3	210
TestAmerica Canton	Wisconsin	State Program	5	999518190

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

3

4

5

7

8

9

10

46

Analytical Laboratory Request Form (ARF)

1) Complete all yellow secti 2) Save the file & e-mail to:		is form. Move through by strikir	ng the "TAE Ial	з" <i>кеу.</i> ocustomer@duke-	energy.com
e) Save the life & e-mail to.		Questions / Problems Call:		704-875-52	
	d selidi kuri	Quedione 11 4 esterno e e a	CONTRACTOR STATES		
		Customer Informat	tion		
Name	Table to structure of	Office Phone		Cell Phone	
Mike Wagner		513 651 3440		NA NA	
Fax			e-Mail Ad	dress	
513 651 3452		mi	ike_wagner@	urscorp.com	
		Accounting Field	le l		
Only complete if specific chargin	a to	Field Type	ag Life dietation	Specific Fiel	d
oital or other special projects is i		The same of the sa			
lude field type and specific field					
		Sampling Informat	tion		
Sampling Personnel / Contra	ctor	Scheduled Sampling Date		Date Sample Kit N	<u>Needed</u>
URS Field Staff Geologist / U		5/ 1-2 /2012		4/27/2012	
		Shipping Address for I	Kit		
		<u>Name</u>		<u>Phone</u>	Mail Code
	Mike	e Wagner		513 651 3440 State	NA Zip Code
Street Addre	ss - stre	et address and town needed 2300, Cincinnati, Ohio 45202		<u>State</u> Ohio	<u>210 Code</u> 45202
36 East /tn S	treet suite	2300, Cincinnati, Onio 45202			\$ 1.050.7. 13.
		Reporting			Was war in the same of the feature
Report Due Date		Additional Reportspdf.f			
5/18/2012			Standa	ard Report to (e-Mail Ad	
Report To (e-Mail Address		Report To (e-Mail Address 2) tara.thomas@duke-energy.com		Report to (e-Mail Adsuments and Adsuments an	
mike.wagner@urs.com		tara.triornas@duke-energy.com		300.11010000	
9		Project Specific	s		
	482000000000000000000000000000000000000	ect Name			am Type Monitoring
		ort LL Hg 2012	Angravim	ate Number of Days S	
Site, Location or S Miami Fort Station, Ha		<u>State</u> Ohio	Approxim	the second control of	amping is consuciou
Ctal Deguarda Baguiros	d Contract	Lab to use etc	(LIMS J	b Number-Duke Lab	Provides)
ample kit to be issued from TestA	America - N	North Canton, Ohio (contact - Denise Po	ohl) Note - D	ata report (prepared by	/ URS) due to Miami Fo
tation by end of month of samplir	ng. May 20	012 Event			
	Matrix		Variables, I	/lethods	
<u>Bottles</u> 8 (four vial package)	water	(seven locations) LL Hg (collected by r			31)
o (lour viai paokago)		(one location) Dissolved LL Hg (0.45 n	micron, filtered	at laboratory)(collecte	d by method 1669,
		analysis by Method 1631)	lucia hu Matha	d 1621)	indicator de la companya de la comp La companya de la co
3 field blanks		LL Hg (collected by method 1669, anal	ilysis by Wellic	u 1031)	nananganéh meneratah di dibertah di negara yang miningan disebuah ban
1 trip blank	water	LL Hg (Method 1631)			
3	water	Total Hg (Method 7470A)			
		Program Transport Agency (Control of the Control of			
		Association of the control of the co			
	As Division				
nasa dalah merupakan bermerakan dalam kelalah dalam br>Banan dalam da					
gg, mod filosomo " jumos sistemat i diffici		I make the control of			Jan 09

	16. SAMPLE PRESERVATION AND ASSESSED AND ASSESSED AND ASSESSED ASSESSED.	reported in American	· ·
n 17-2			ng to meet
Sample(s)	ifric Acid Lot# 110410-HNO3; Sulfuric Acid Lot# 041911-H2SO4; So	dium Hydroxide	Lot# 121809 -
NaOH: Hydrochloric Acid L	were further preserved in itric Acid Lot# 041911-H2SO4; So ot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(Cl to sample(s)?	H3COO)2ZN/Na	OH. What
time was preservative added	to sample(s)?		· · · · · · · · · · · · · · · · · · ·
Client TD	parties of the partie	Date	Initials
COLUMN (1) TO	Company (1974) Market 1974 And Company (1974)	5/3/2	_/\/_
COLUMNIA TO	THE THE PERSON NAMED AND ADDRESS OF THE PERSON OF THE PERS		<u> </u>
	THE RESERVE THE PROPERTY OF TH	推广:注《 图图图图图 》	
		SPECIAL CONTRACTOR	
	and the state of t	新期的公司的	<u> </u>
		25.300 0000000000000000000000000000000000	· With the
和安排解除。————————————————————————————————————	the contract of the contract o	nawata akama	18.5 1947 1.5
Adding. Built		WHAT TO ALL	是
		Alta de la	
À: Ar		WAR SAN SAN	
. >4		ERNO KEKAWIT	. 3
		uen y te de suide te de la primer. (Al de telegraphie de la primer (Telegraphie))	
		i deglegat filologisk (filologisk) Priotografia (filologisk)	
	· · · · · · · · · · · · · · · · · · ·	, a program of the design of the later. The second of the	e statu. E status
	THE STATE OF THE S	Specification of the second	AND A
		世代 関連の (数)	
	The second secon	But the Maria Salas	
	1000 1000 1000 1000 1000 1000 1000 100		
			e transcription of the second
		BESTELLEN S.	
·		AVECTOR STEEL	THE CONTRACTOR
11 84		Mandoda and Ana	
		CARLES CONTRACTOR	1
Sec. 15		<u>L GAN AN GLAMAG LA BANG.</u> La Maria	filetije ist
		LEGICAL MARKET	-
	And the second of the second o	44	
100 (100 (100 (100 (100 (100 (100 (100			
		PERSONAL PROPERTY.	
		有性的的现在分	,
		Ta Princip	
	Provided the programmer continues and the second of the se		
The same of the sa	with the second to be a second of the second	. v	
	相对的特殊的知识的 1961年,1961年,1961年,1961年,1961年,1961年,1961年,1961年,1961年,1961年,1961年,1961年		<u> </u>
			·
			<u> </u>
ı•			<u> </u>
<u> </u>			
and the second second		1	
	Observed Sample Temp. °C Corrected Sample Temp. °C	IR#	Coolant
Cooler#	Observed dampto Tomes: O		
			<u> </u>
		 	
		 	
			1
		 	
		 	
		<u> </u>	
			E 2
		1	1
		1.	

16. SAMPLE PRESERVATION OF A SECTION OF THE PRESERVATION OF THE PR

Login Sample Receipt Checklist

Client: Duke Energy Corporation

Job Number: 240-10910-1

Login Number: 10910 List Source: TestAmerica Canton

List Number: 1 Creator: Maddux, Ann

oronton madday / min	
Question	Answer Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A
The cooler's custody seal, if present, is intact.	True
The cooler or samples do not appear to have been compromised or tampered with.	True
Samples were received on ice.	N/A
Cooler Temperature is acceptable.	True
Cooler Temperature is recorded.	True
COC is present.	True
COC is filled out in ink and legible.	True
COC is filled out with all pertinent information.	True
Is the Field Sampler's name present on COC?	True
There are no discrepancies between the sample IDs on the containers and the COC.	True
Samples are received within Holding Time.	True
Sample containers have legible labels.	True
Containers are not broken or leaking.	True
Sample collection date/times are provided.	True
Appropriate sample containers are used.	True
Sample bottles are completely filled.	True
Sample Preservation Verified.	True
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True
Multiphasic samples are not present.	True
Samples do not require splitting or compositing.	True
Residual Chlorine Checked.	N/A

3

4

6

8

10

40

13